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AGO D/A ltr 29 Apr 1980

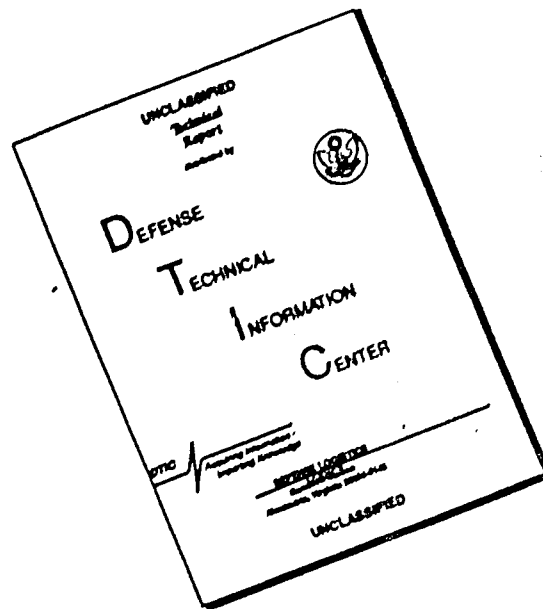
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DEPARTMENT OF THE ARMY  
OFFICE OF THE ADJUTANT GENERAL  
WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGAM-P (M) (24 Feb 69)

FOR OT UT 684227

28 February 1969

SUBJECT: Operational Report - Lessons Learned, Headquarters, 36th  
Engineer Battalion (Construction, Period Ending 31 October  
1968

SEE DISTRIBUTION

1. Subject report is forwarded for review and evaluation in accordance with paragraph 5b, AR 525-15. Evaluations and corrective actions should be reported to ACSFOR OT UT, Operational Reports Branch, within 90 days of receipt of covering letter.
2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

1 Incl  
as

*Kenneth G. Wickham*  
KENNETH G. WICKHAM  
Major General, USA  
The Adjutant General

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AD849004

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DEPARTMENT OF THE ARMY  
HEADQUARTERS 36TH ENGINEER BATTALION (CONST)  
APO San Francisco 96291

EGFE-OP

15 November 1968

SUBJECT: Operational Report - Lessons Learned (ROS-CSFOR R1) For Quarterly  
Period Ending 31 October 1968

Commander-in-Chief, United States Army, Pacific, ATTN: GPOP-OT, APO 96588  
Commanding General, United States Army, Vietnam, ATTN: AVHGC-OH, APO 96307  
Commanding Officer, 34th Engineer Group (Const), ATTN: EGF-OP, APO 96291

1. SECTION I, OPERATIONS - Significant Activities

a. On 8 August, Program 6 civilianization was approved in which the battalion was authorized an additional 306 Local National employees to replace 204 military spaces to be deleted from the TOE. During the period 91 Local Nationals have been hired against the Program 6 authorization.

b. On 5 August, the 544th Engineer Company began operation of a recrushing and screening plant to produce concrete aggregate sizes. Plant consists of a headwall from which trucks feed 3"(-) rock into a hopper, a conveyor moves the rock to a screening unit, oversize material is routed to a commercial cone crusher, and thence recycled over the screens. Production has averaged 4000 tons per week.

c. On 21 August 1968, two construction platoons from B Company and one construction platoon from D Company moved to Dong Tam to build a portion of the 9th Infantry Division base camp. The company built 12 PASQUE type buildings and 2 large Aircraft Hangers.

d. On 1 September, the crushing plant at Quarry #1 was redesigned to produce only subcourse for shipment to the delta and clean rock to feed the new recrushing plant. Four crushers, previously used to make concrete and asphalt aggregate, were removed from the quarry.

e. On 26 September, Quarry #2 was placed on standby basis so that resources could be diverted to operation of Quarry #1 and the recrushing plant.

f. On 1 October, the Ba Ria rock quarry was reopened by D Company to provide blast rock for widening QL-15. The quarry is producing an average of 1,000 tons per week.

g. On 23 October, the battalion was reorganized under TOE 05-117G as modified to include operation as a Type B Unit. Under this modified TOE the battalion lost 231 military spaces. This reorganization was in conjunction with the Program 6 civilianization above. (NOTE: Due to changed mission and a probable change in location, it is anticipated the battalion will be restored to Type A status).

Inclosure

FOR OT UT  
684227  
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h. On 23 October, the 94th Engineer Detachment (Quarry) was reorganized under MTOE 5-500C. The authorized strength of the unit was increased from 37 to 215. The new TOE establishes two Quarry Platoons, an Equipment Platoon and a Maintenance Platoon with DSU capability. Addition of an organic maintenance capability is particularly significant and welcome.

i. A crypto account was approved during the period. Equipment was received and is presently being installed in the crypto center.

j. During the period the battalion worked on 75 horizontal and vertical construction projects to include such diverse activities as construction of POL tanks, mooring buoys, MACV advisor housing, ARVN dependent housing, battalion MER, bridges, airfield markers, signal facilities, deep wells, Special Forces camp and electrical wiring; upgrading, paving and maintenance of roads; dust control; repair of LOC interdiction; and repair and paving of airfields.

k. During the period barge loading of rock in support of delta units totalled more than 81,000 tons; rock production totalled more than 137,000 tons; recrushing totalled more than 34,000 tons; and asphalt production totalled more than 6,600 tons.

l. During the period 145 personnel were received and processed by the battalion as replacements for rotational losses. The battalion out-processed 289 personnel.

m. During the period the battalion expended 82 days performing its construction and support missions, six days undergoing mandatory training, and four days non-duty time.

2. SECTION II, LESSONS LEARNED: Commanders Observations, Evaluations and Recommendations.

a. Personnel

(1) Hump months in rotation of personnel

(a) Observation: Projected losses to this battalion from normal rotation of personnel for Apr 69 were 8 Officers and 195 EM.

(b) Evaluation: Such "hump months" create turbulence and cause a loss of continuity in personnel. In an attempt to alleviate this problem the Battalion Commander wrote a letter to each individual rotating in April outlining the advantages of extensions. As a result 74 men extended their DEROS out of the hump month.

(c) Recommendations: Units faced with unusually high projected losses through normal rotation undertake an aggressive program of education about the benefits of extension. Benefits include relative immunity to infusion type transfers, early release from active duty if extension carries DEROS to within 90 days of ETS, combat pay, and income tax advantages.

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(2) Shortage of qualified personnel in critical MOS

(a) Observation: Local National employees are needed to fill such skills as heavy truck drivers, engineer equipment repairmen, engineer equipment mechanics, wheel vehicle mechanics, etc.

(b) Evaluation: Local Nationals are readily available, but only if given adequate training are they able to fill these slots. Aggressive training has shown the value of Local Nationals. The training problem is complicated considerably by the language barrier.

(c) Recommendations: That Local National employees be aggressively trained to fill shortages in critical MOS. That consideration be given to the possibility of a civilian-OJT program by the Civilian Personnel Office in conjunction with the units to increase ability to train Local Nationals in critical skills, and to increase ability to cope with the language problem.

b. Operations:

(1) Overfilling of asphalt distributor.

(a) Observation: Operators have wasted considerable asphalt. Expansion has caused asphalt to escape through the overflow lines.

(b) Evaluation: This problem is caused by overfilling the asphalt distributor.

(c) Recommendation: That the distributor be underfilled by 5-10% to allow for expansion.

(2) Damage to conveyors

(a) Observation: Conveyors are very easily damaged by improper loading and moving.

(b) Evaluation: The standard 50 ft Barber-Green Conveyor is a fragile item. Civilian conveyors are even more easily damaged. Moving over rough roads, improper sling loading, or operation when not properly supported will twist the frame of the conveyor.

(c) Recommendations: That extreme care be exercised when handling or moving conveyor units, especially when moving them underneath other equipment.

(3) Convoy accidents

(a) Observation: Injury to personnel and damage to equipment has resulted during convoy movements.

(b) Evaluation: Proper signaling procedures, safe vehicle distances, safe speeds and driver alertness are essential to insure safe convoy movement.

(c) Recommendations: That training for convoy personnel be increased from the present pre-convoy orientation to some level that will achieve satisfactory results.

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Period Ending 31 October 1968

(4) Flashing on conveyors

(a) Observation: There is rock spillage from conveyors. This falling rock is a safety hazard and time waster.

(b) Evaluation: Flashing placed on conveyors will minimize rock spillage, but unless it is well constructed, flashing can become more of a problem than falling rock. The most effective design consist of 2x6 lumber mounted along the length of the conveyor on 2x2 angle iron (flat stock is not adequate). Rubber flashing cut from old conveyor belts is mounted on the 2x6 sideboards with 1 in banding steel and framing nails. Use of framing nails permits the flashing to be changed very rapidly.

(c) Recommendations: That well designed flashing be used where rock spillage is a problem.

(5) Dust Control in small area

(a) Observation: Dust control presents a problem to a unit without access to an asphalt distributor.

(b) Evaluation: To facilitate dust control a fabricated distributor system was placed on a  $\frac{1}{2}$  ton trailer. The distributor system consisted of 2 ea 55 gal. oil drums and a 2-in. spreader bar drilled with  $\frac{1}{4}$ -in holes at 6 in. intervals.

(c) Recommendations: That units faced with small-area dust control problems fabricate such a device.

(6) Widening road in marshy areas

(a) Observation: When upgrading roads in marshy areas, it was found that fill on the outside of existing shoulders will not provide adequate stabilization for the new wider roadway.

(b) Evaluation: To effect adequate stabilization, road shoulders were dug out and fill was placed from the edge of the roadway to the width desired. In this manner proper stabilization and compaction were obtained.

(c) Recommendation: That shoulders be cut away and filled when widening roads in marshy areas.

(7) Widening roads in marshy areas

(a) Observation: When both road shoulders were removed, the old road bed began to fail before the shoulders could be rebuilt.

(b) Evaluation: The method used to remove and refill shoulders in marshy areas was to do each shoulder individually. Leaving one shoulder in place while working on the other provided enough support to prevent the roadway from sideshifting and failing.



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(c) Recommendation: When widening roads in marshy area, each shoulder should be dug out and replaced individually.

(8) Prefabrication of strips for louver blocks

(a) Observation: Large buildings requiring louvered siding wasted many hours nailing individual louver blocks in place.

(b) Evaluation: Placement of louver blocks on large buildings is greatly speeded up when strips of preconstructed blocks can be nailed in place instead of a single block at a time. The strips are prepared by nailing louver blocks to a lath, using a jig as shown on inclosure 2. The whole strip is nailed to a stud at one time when needed. Man hours are cut by one third to one-half.

(c) Recommendation: That strips of louver blocks be prefabricated when large buildings or a large number of buildings are being constructed.

(9) PASCOE Buildings

(a) Observation: Prefabricated metal building kits make faster, longer-lasting, less expensive buildings than equal-sized, wood-frame buildings.

(b) Evaluation: Construction of 12 ea 40x96-ft PASCOE buildings in 10 weeks by a work force of 36 men pointed out the advantage of using prefabricated metal building kits in the theater of operations. Not only were the buildings completed faster than comparable woodframe structures, but the cost was one-third less. Each building kit could be moved to the construction site with much less effort and equipment than materials for a comparable wooden structure.

(c) Recommendation: That prefabricated metal building kits be used in theater-of-operations construction as a desirable alternative to wood-frame construction.

c. Training

(1) Marriage to Local Nationals

(a) Observation: Requests to marry Vietnamese Nationals have increased.

(b) Evaluation: Such marriages may lead to problems which the participants are not aware of. This topic has been included in the character guidance program to achieve dissemination of information to the entire battalion. A Vietnamese priest has joined the battalion Chaplain in this program to add impact and unanimity of viewpoint to the basic information.

(c) Recommendations: That the character guidance program be utilized to increase understanding of US - Vietnamese marriages.

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d. Logistics: None

e. Maintenance

(1) Short bearing life

(a) Observation: Main bearing in the vibrator assembly of a Ceder Rapids screening unit developed a tendency to over-heat and burn out.

(b) Evaluation: Severe temperatures and operating condition in Vietnam necessitate special precautions. A higher-temperature lubricant than recommended by the manufacturer was used. In addition, lubrication intervals were increased by 50%. Bearing life has increased greatly.

(c) Recommendation: On non-standard equipment, lubrication intervals should be increased beyond manufacturers recommendations when operating conditions are unusually severe.

(2) Broken telephone line

(a) Observation: Commercial phone line from the quarry was constantly broken due to falling rocks, blasting operations and equipment movement.

(b) Evaluation: Chronic interruption of telephone service at Quarry #1 caused considerable inefficiency in the operation. Battalion Communications Section assumed a larger responsibility for maintenance of the line, relieving some of the work load on the local signal support unit. The old, easily broken line was replaced with a heavy duty line strong enough to withstand the hazards of quarry operation.

(c) Recommendation: That telephone lines in such areas as quarries be upgraded to withstand the hazards.

f. Supply: None

g. Medical

(1) Battalion Surgeon as Physician-of-the-Day

(a) Observation: Battalion surgeon serves as physician-of-the-day at the sub-area dispensary and at the evacuation hospital.

(b) Evaluation: This occasional duty at the much larger medical facility has enabled the battalion surgeon to remain highly informed about diseases in the area and health trends.

(c) Recommendation: That the unit surgeon perform occasional duty at a larger medical facility which would help keep him informed on medical matters.

EGFE-OP

15 November 1968

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR R1) For Quarterly  
Period Ending 31 October 1968

*Richard E. Leonard*

RICHARD E. LEONARD  
LTC, CE  
Commanding

2 Incl

1. Organizational Structure
2. Louver Block Jig

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DGF-OP (15 Nov 68) 1st Ind

SUBJECT: Operational Report - Lessons Learned RCS CSFOR-65(R1) for  
Quarterly Period Ending 31 October 1968

DA, HEADQUARTERS, 34th Engineer Group (Const), APO 96291, 29 November 1968

TO: Assistant Chief of Staff for Force Development, Department of the Army,  
Washington D.C., 20310

Commanding Officer, 20th Engineer Brigade, ATTN: AVBI-03, APO 96491

1. The subject report submitted by the 36th Engr Bn has been reviewed by this HQ and is considered comprehensive and of value for documentation and review of the reporting unit's activities and experiences.

2. This HQ concurs with the submitted report with the following comments:

a. Ref SUBJECT, page 1: Reports Control Symbol should read  
RCS CSFOR-65(R1).

b. Recommendations stated in the below referenced "Commanders  
Observations" are considered applicable but minor. They are either  
normally found incorporated within an engineer battalion's SOP or are  
published army-wide policies.

Ref para 2a(1), page 2

Ref para 2b(1), page 3

Ref para 2b(2), page 3

Ref para 2b(3), page 3

Ref para 2c(1), page 5

REF para 2e(1), page 6

Ref para 2g(1), page 6

c. Recommendations stated in the below referenced "Commander's  
Observations" are considered noteworthy to merit possible army-wide  
adoption. No additional amplification is necessary by this HQ as the  
recommendations are self explanatory and the resultant benefits obvious.

Ref para 2a(2), page 3

Ref para 2b(4), page 4

Ref para 2b(5), page 4

Ref para 2b(6), page 4

EGF-OP (15 Nov 68) 1st Ind 28 November 1968  
SUBJECT: Operational Report - Lessons learned RCS CSFOR-65(R1) for  
Quarterly Period Ending 31 October 1968

Ref para 2b(7), page 4.

Ref para 2b(8), page 5

Ref para 2b(9), page 5

Ref para 2e(2), page 6

FOR THE COMMANDER:

*William E Emery*  
WILLIAM E EMERY  
Major, AGC  
Adjutant

Copy Furnished:  
CO, 36th Engr Bn

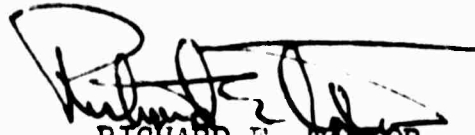
AVBI-OS (15 Nov 68) 2nd Ind  
SUBJECT: Operational Report - Lessons Learned, RCS CSFOR-65(R1) for  
Quarterly Period Ending 31 October 1968

DA, HEADQUARTERS, 20th Engineer Brigade, APO 96491 12 DEC 1968

TO: Commanding General, United States Army Vietnam  
ATTN: AVHEN-FO, APO 96375

1. Submitted in accordance with USAFV Regulation 525-15, dated  
13 April 1968.
2. Subject report for the 36th Engineer Battalion (Construction)  
has been reviewed and is considered adequate.

FOR THE COMMANDER:

  
RICHARD E. TAYLOR  
1LT, ACC  
Assistant Adjutant

AVHDC-DST (15 Nov 68) 3d Ind  
SUBJECT: Operational Report - Lessons Learned RCS CSFOR-65(R1) for  
Quarterly Period Ending 31 October 1968

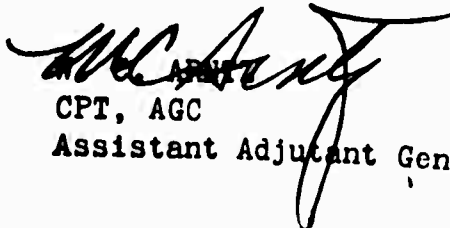
HEADQUARTERS, UNITED STATES ARMY, VIETNAM, APO San Francisco 96375 1 JAN 1969

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT,  
APO 96558

1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 October 1968 from Headquarters, 36th Engineer Battalion (Const).

2. Reference item concerning PASOO Buildings, page 5, paragraph 2b(9). Noneconur. Prefabricated buildings in widths under 40' are uneconomical and requirements should be met with wood frame construction. Additionally, prefabricated metal buildings are more economical than timber in meeting requirements for facilities greater than 3500 square feet. Current procurement practices reflect this criteria.

FOR THE COMMANDER:

  
CPT, AGC  
Assistant Adjutant General

Cy furn:  
HQ 20th Engr Bde  
HQ 36th Engr Bn (Const)

GPOP-DT (15 Nov 68) 4th Ind

SUBJECT: Operational Report of HQ, 36th Engr Bn (Const) for Period  
Ending 31 October 1968, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 30 JAN 1969

TO: Assistant Chief of Staff for Force Development, Department of the  
Army, Washington, D. C. 20310

This headquarters has evaluated subject report and forwarding indorse-  
ments and concurs in the report as indorsed.

FOR THE COMMANDER IN CHIEF:



C. L. SHORTT  
CPT, AGC  
Asst AG



## ORGANIZATIONAL STRUCTURE

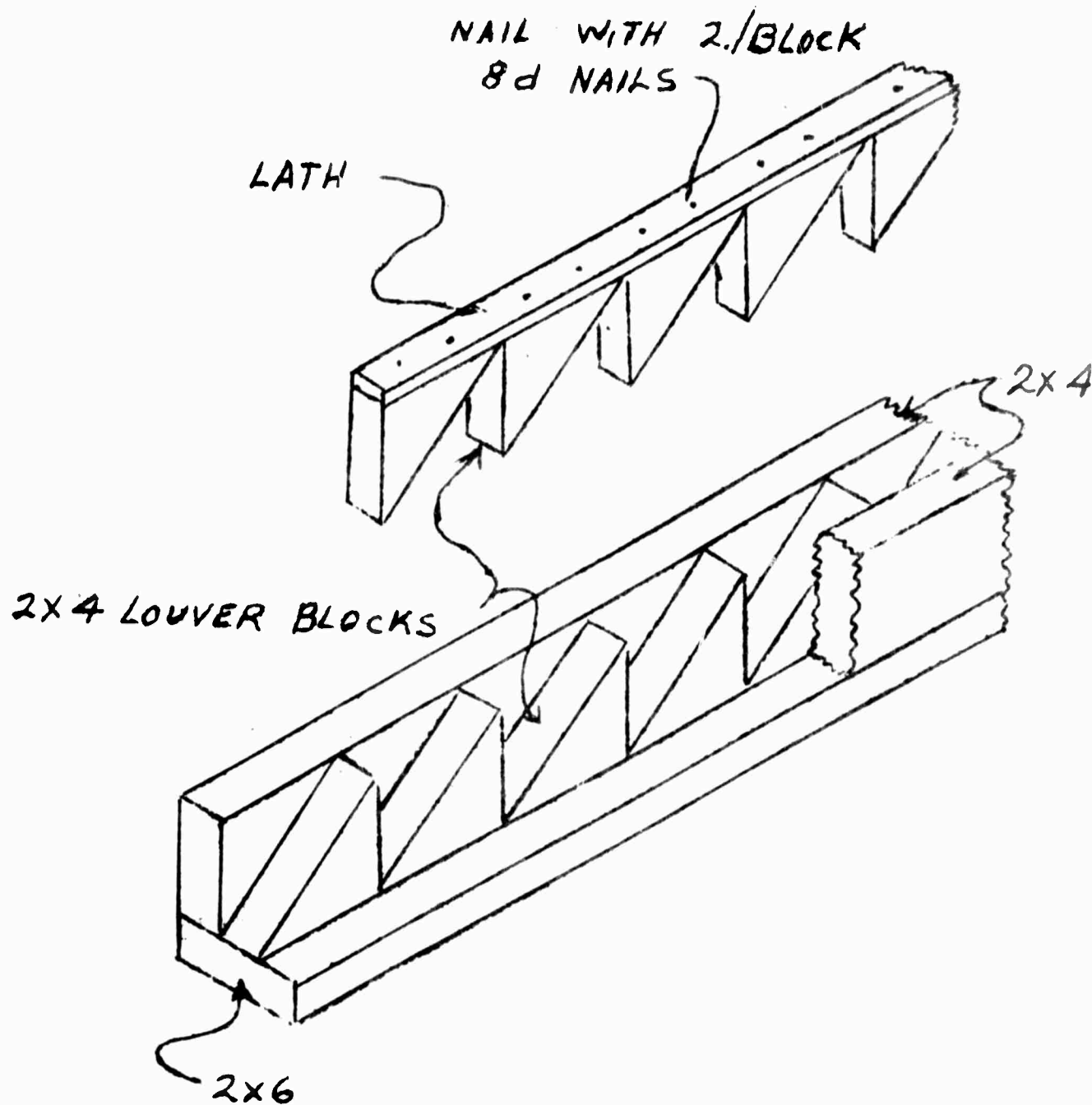
1. ORGANIC UNITS:
  - a. HHC, 36th Engineer Battalion (Const)
  - b. A Company, 36th Engineer Battalion (Const)
  - c. B Company, 36th Engineer Battalion (Const)
  - d. C Company, 36th Engineer Battalion (Const)
  - e. D Company, 36th Engineer Battalion (Const)
2. ATTACHED UNITS:
  - a. 544th Engineer Company (CS)
  - b. 94th Engineer Detachment (Quarry)
  - c. Quarry Section, 595th Engineer Company (LE)
  - d. 156th Engineer Detachment (Well Drilling)
3. OPERATIONAL CONTROL
  - a. 1st Platoon, 67th Engineer Company (DT)

Incl 1

EGFE-OP

15 November 1968

SUBJECT: Operational Report - Lessons Learned (RCS-CSFOR R1) For Quarterly  
Period Ending 31 October 1968



LOUVER BLOCK JIG

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Experiences of unit engaged in counterinsurgency operations.			
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CO, 36th Engineer Battalion (Construction)			
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